| Index of | Claims |
|----------|--------|
|          |        |

| Application No. | Applicant(s) |  |
|-----------------|--------------|--|
| 10/625,550      | KIM ET AL.   |  |
| Examiner        | Art Unit     |  |
| Ryan Lepisto    | 2883         |  |

| √ | Rejected |
|---|----------|
| = | Allowed  |

| - | (Through numeral)<br>Cancelled |
|---|--------------------------------|
| + | Restricted                     |

| N | Non-Elected  |
|---|--------------|
|   | Interference |

| Α | Appeal   |
|---|----------|
| 0 | Objected |

| Cla            | aim           |  |                 |          | Dat     | <u> </u>     |                  |         | 1:::: | Cl   | aim      | _               |          |         | Date            | ,  |                  |       | CI   | aim        | Γ  |
|----------------|---------------|--|-----------------|----------|---------|--------------|------------------|---------|-------|--|----------|-----------------|----------|---------|-----------------|--|------------------|-------|--|------------|--|
| <del>  "</del> |               | <del>                                     </del> |                 |          | Ť       | Ť            |                  | -T      | 1     | <del>                                     </del> | 1        | $\vdash$        |          | Т       |                 | <u> </u>   | Т                | -     | <del>  ~</del>                                   |            |  |
| Final          | Original      | 12/2/04  |                 |          |         |              |                  |         |       | Final  | Original |                 |          |         |                 |  |                  |       | Final  | Original   |  |
|                | 1             | 1  |                 |          |         |              |                  |         |       |  | 51       |                 |          |         |                 |  | $\Box$           |       |  | 101        |  |
|                | 2             | Ц  |                 |          |         |              |                  |         |       |  | 52       |                 |          |         |                 |  |                  |       |  | 102        |  |
| <u></u>        | 3             | Ш  | Ш               | $\bot$   | ↓_      | ╙            | $\sqcup$         | $\perp$ |       |  | 53       |                 | _        | _       | Ш               |  |                  |       |  | 103        |  |
|                | 4             | 11   | $\sqcup$        | $\bot$   | -       | <u> </u>     | $\vdash$         |         |       |  | 54       |                 |          | _       | $\bot$          | <u>.</u>   | 1                | _     | <u> </u>   | 104        |  |
|                | 5             | ╀  | $\vdash$        | +        | $\bot$  | ↓            |                  | -       |       |  | 55       | $\sqcup$        | _        | -       | $\sqcup$        |  | $\bot\bot$       | _     | <u> </u>   | 105        | _  |
|                | <u>6</u><br>7 | H  | $\vdash$        | +        | ╁       | <del> </del> | $\vdash$         | +       |       | <b></b>  | 56       | $\vdash \vdash$ | -        | +       | $\vdash$        |  | ++               | -     | <u> </u>   | 106        | $\vdash$   |
|                | 8             | ╫╴   | $\vdash$        | +        | +       | ╁            | $\vdash$         | +       | ł     | <del></del>                                      | 57<br>58 | $\vdash$        | +        | ┿       | +               |  | ╁┼               | -     | <u> </u>   | 107        | $\vdash\vdash$                                   |
| _              | 9             | H  | $\vdash$        |          | ╁       | ┢            | $\vdash$         | +       | l     |  | 59       | $\vdash$        | $\dashv$ | +       | +               | -  | +                | -     | <b> </b>   | 108<br>109 | <del>  -</del>                                   |
|                | 10            | -  | -               | 十        | +       |              | <del>     </del> | +       |       |  | 60       | $\vdash$        |          | +       | $\vdash$        |  | ++               | -     | ├  | 110        | -  |
|                | 11            |  | $\vdash$        | $\dashv$ | +-      | $\vdash$     |                  |         |       |  | 61       |                 | $\dashv$ | +       | H               |  | ++               | -     | 1  | 111        | $\vdash$   |
|                | 12            |  |                 | $\neg$   | 1       | 1            | <del>  -</del>   |         |       |  | 62       |                 |          | +       | $\Box$          |  | 1-1              | -     |  | 112        |  |
|                | 13            | Ţ  | İΤ              |          | 1       | $\vdash$     | $\Box$           |         |       |  | 63       | П               |          |         | 1 1             |  | 1 1              |       | $\vdash$   | 113        |  |
|                | 14            |  |                 |          | Т       | Г            |                  |         | l     |  | 64       | П               | $\neg$   |         | $\Box$          |  |                  |       |  | 114        |  |
|                | 15            |  |                 |          |         |              |                  |         |       |  | 65       |                 |          | $\top$  |                 |  |                  |       |  | 115        |  |
|                | 16            |  |                 |          |         |              |                  |         |       |  | 66       |                 |          |         |                 |  |                  |       |  | 116        |  |
|                | 17            |  |                 |          |         |              |                  |         |       |  | 67       |                 |          |         |                 |  |                  |       |  | 117        |  |
| <u></u>        | 18            | <u> </u>   | $\sqcup$        | _        | ╄       | <u> </u>     | $\sqcup$         |         |       |  | 68       |                 |          |         | 1               |  | $\perp \perp$    | _     | <u></u>  | 118        | igsquare   |
| <u> </u>       | 19            | _  | $\vdash$        | <b>-</b> | +-      | ₩            |                  | -       |       |  | 69       | $\sqcup$        |          | _       |                 |  | +                | _     | <u> </u>   | 119        | $\sqcup$   |
| <b></b>        | 20            | _  | $\vdash$        | _ -      | -       | -            | $\vdash$         | +       |       |  | 70       | -               | _        |         | 1               | _  | ++               | _     |  | 120        |  |
| -              | 21            | ├  | -               | $\dashv$ | +       | -            |                  | +-      |       |  | 71       | H               | -        | +       | $\vdash$        |  | +                | -     | <u> </u>   | 121        |  |
| -              | 22<br>23      | ┢  | ┢               |          | +       | $\vdash$     |                  | +-      |       |  | 72       | $\vdash$        |          |         | $\vdash$        |  | +                | -     | <u> </u>   | 122        | $\vdash$   |
| <b>—</b>       | 24            | ⊢  | $\vdash$        |          | +       | -            | ╂╼┼╴             | -       |       | <del></del>                                      | 73<br>74 | $\vdash$        |          | ╁       | ╁               | +  | ╁┼               | -     | ├—   | 123<br>124 | $\vdash$   |
| $\vdash$       | 25            | -  | $\vdash$        |          | +-      | +-           | <del>   </del>   | +       |       | _  | 75       | Н               |          | ╅       | ╁               | +  | +                | -     | <del>                                     </del> | 125        | $\vdash \vdash$                                  |
|                | 26            |  | $\vdash$        | +        | +-      | -            | $\vdash$         | +       |       |  | 76       |                 | -        | +       | 1 1             | +  |                  | -     | <u> </u>   | 126        | $\vdash$   |
|                | 27            |  |                 | +        | 1-      | $\vdash$     |                  | +       |       |  | 77       |                 |          | +       | 1-1             | $\dashv$   | 11               | -     | _  | 127        | $\vdash$   |
|                | 28            |  |                 |          | ╁       | Τ            |                  |         |       |  | 78       | П               | $\neg$   |         |                 | $\top$   | +                | 1     |  | 128        |  |
|                | 29            |  |                 | $\top$   |         |              |                  |         |       |  | 79       | $\Box$          |          |         |                 |  | 1                |       |  | 129        | $\Box$   |
|                | 30            |  |                 |          |         |              |                  |         |       | ٠  | 80       |                 |          |         |                 |  |                  |       |  | 130        |  |
|                | 31            |  |                 |          |         |              |                  |         |       |  | 81       |                 |          |         |                 |  |                  |       |  | 131        |  |
|                | 32            |  |                 |          | ↓       | _            |                  |         |       |  | 82       | Ш               |          | $\perp$ |                 | _  |                  |       |  | 132        |  |
|                | 33            | <u> </u>   | Ш               |          | ╄       | <u> </u>     |                  |         |       |  | 83       | Щ               |          | 1       | Ш               |  | $\sqcup$         | _     |  | 133        |  |
| <u> </u>       | 34            | <b> </b>   | $\vdash \vdash$ | +        | -       | ₩            | ├-               | -       |       |  | 84       | Щ               | _        | -       | $\sqcup$        |  | ++               | 4     | <u> </u>   | 134        | $\vdash \vdash$                                  |
|                | 35            | <u> </u>   | $\vdash$        | -        | +-      | ├_           | -                | +       |       |  | 85       | $\vdash \vdash$ | -        | +-      | ┦               | +  | ++               | -     | <u> </u>   | 135        | $\vdash$   |
| <u> </u>       | 36<br>37      | -  | <del>   </del>  | +        | +       | ├            |                  | +       |       |  | 86<br>87 |                 | -        | +       | $\vdash$        |  | +-+              | -[::: | <del> </del>                                     | 136        | $\vdash$   |
|                | 38            | -  | $\vdash$        | +        | +       | ╁            | $\vdash$         | +       |       |  | 88       | $\vdash$        | +        | +       | $\vdash$        | +  | +                | -     | <del> </del>                                     | 137<br>138 | -  |
| -              | 39            | $\vdash$   | $\vdash$        |          | +       | $\vdash$     | $\vdash \vdash$  | +       |       | ļ  | 89       | $\vdash$        | +        | +       | $\vdash$        |  | ++               | - ::: | $\vdash$   | 138        | -  |
|                | 40            | $\vdash$   | $\vdash$        | - -      | +       | $\vdash$     | $\vdash \vdash$  | +       |       |  | 90       | $\vdash$        | +        | +       | ╁┤              | +-   | ++               | -[::: |  | 140        | -  |
|                | 41            | $\vdash$   | $\vdash$        | $\dashv$ | +       | ╁            | <del>   -</del>  | +       |       |  | 91       | $\vdash$        | $\dashv$ | +       | $\vdash$        | - -  | +-+              | -{    | $\vdash$   | 141        | <del>                                     </del> |
|                | 42            |  | $\vdash$        | +        | T       | $\vdash$     | - -              |         |       |  | 92       | $\vdash$        | $\dashv$ | $\top$  | $\sqcap$        |  | +                | ١!!!  | -  | 142        |  |
|                | 43            |  |                 | $\Box$   | Τ       |              | $\Box$           | $\top$  |       |  | 93       |                 | $\neg$   | 1       | $\Box$          | $\neg$   | <del>     </del> |       |  | 143        | $\sqcap$   |
|                | 44            |  |                 |          |         |              |                  |         |       |  | 94       |                 |          | Ι       |                 |  |                  | 7     |  | 144        |  |
|                | 45            |  |                 |          |         |              |                  |         |       |  | 95       |                 |          | I       |                 | $oldsymbol{ol}}}}}}}}}}}}}}$ | $\Box$           |       |  | 145        |  |
|                | 46            | L  | П               |          |         |              |                  |         |       |  | 96       |                 |          |         | $\Box$          |  |                  |       |  | 146        |  |
|                | 47            | _  | Ш               |          | 1       | _            | Ш                |         |       |  | 97       | Ш               |          |         | $\Box$          |  | $\Box$           |       |  | 147        |  |
|                | 48            | _  | $\sqcup$        |          | $\perp$ | <u> </u>     |                  | $\bot$  |       | <u> </u>   | 98       | $\sqcup$        | _        | -       | $\sqcup$        | $\perp$  | $\Box$           | _     |  | 148        | $\sqcup \bot$                                    |
| <u> </u>       | 49            | <u> </u>   | $\vdash \vdash$ | +        | +-      | <b> </b> _   |                  | -       |       |  | 99       | $\sqcup$        | 4        | _       | $\vdash \vdash$ |  | ++               | _     |  | 149        | $\vdash \downarrow$                              |
|                | 50            |  | Ш               |          |         | <u></u>      |                  |         | ::::: | L  | 100      | Ш               |          |         | Ш               | _1_  | Ц.               |       | L  | 150        | Ш_   |

| Cla         | aim  | 1        |          |  | ī        | Date   | e -      |          |          |          | :: | :: |
|-------------|--|----------|----------|--|----------|--|----------|----------|----------|----------|----|----|
|             |  | $\vdash$ | T        | T  | Г        |  | ī        | Γ.       |          |          |    |    |
|             | <u> </u>   |          |          |  |          |  |          | 1        |          |          |    |    |
| Final       | 늚  |          |          |  |          | ĺ  |          | 1        |          |          | ii |    |
| 证           | Original   |          |          |  |          |  |          |          |          |          |    |    |
|             |  |          |          |  |          | <u> </u>   |          |          |          |          |    |    |
|             | 51   |          |          |  |          |  |          |          |          |          |    |    |
|             | 52   |          |          |  |          |  |          |          | Г        |          |    | :: |
|             | 53   | Т        | Г        |  | _        |  |          |          |          |          |    |    |
| $\vdash$    | 54   | _        | $\vdash$ | ┰  | _        | $\vdash$   | $\vdash$ |          | $\vdash$ | _        |    |    |
|             | 55   | $\vdash$ | 一        | <del>                                     </del> | ├─       | <del>                                     </del> | $\vdash$ |          | $\vdash$ | _        |    | :  |
| <del></del> | 56   | $\vdash$ | $\vdash$ |  |          | ┢  | ⊢        | -        | -        | _        |    |    |
| <u> </u>    | 50   | ⊢        | ├-       | -  | ┝        | _  | -        |          | -        | _        |    |    |
|             | 51<br>52<br>53<br>54<br>55<br>56<br>57<br>58<br>59   | <u> </u> | _        | H  | _        | <u> </u>   | <u> </u> | _        |          | _        |    |    |
|             | 58   | _        | <u> </u> | _  | _        | <u> </u>   | _        |          |          | _        |    |    |
|             | 59   | _        | L.       | _  | _        | _  | _        |          | L        | _        |    |    |
|             | 60   |          |          |  |          |  |          |          |          |          |    |    |
|             | 61   |          |          |  |          |  |          |          |          |          |    |    |
|             | 62   |          | -        |  |          |  |          |          |          |          |    |    |
|             | 63   |          |          |  |          |  |          |          |          |          |    |    |
|             | 64   |          | $\vdash$ | $\vdash$   | $\vdash$ | _  | Т        |          |          |          |    |    |
|             | 65   |          | $\vdash$ | $\vdash$   | -        | _  | $\vdash$ |          |          |          |    |    |
|             | 66   | _        | ├-       |  |          | ┝  | -        | _        |          | _        |    |    |
|             | 00   | _        | <u> </u> | -  |          | ┝  | H        | _        | _        | _        |    | :: |
|             | 6/   | _        | <u> </u> | _  | -        | <u> </u>   | <u> </u> |          | _        |          |    |    |
|             | 68   |          | _        | _  | _        | ļ  |          |          | _        |          |    |    |
|             | 60<br>61<br>62<br>63<br>64<br>65<br>66<br>67<br>68<br>69<br>70<br>71<br>72<br>73<br>74<br>75<br>76<br>77<br>78 |          | <u> </u> |  |          | _  |          |          | _        |          |    |    |
|             | 70   |          | <u> </u> |  | _        |  |          |          |          |          |    |    |
|             | 71   | L.,      | <u> </u> |  |          |  |          |          |          |          |    |    |
|             | 72   |          |          |  |          | L  |          |          |          |          |    |    |
|             | 73   |          |          |  |          |  |          |          |          |          |    |    |
|             | 74   |          |          |  | L        |  |          |          |          |          |    |    |
|             | 75   |          |          |  |          |  |          |          |          |          |    |    |
|             | 76   |          |          |  |          |  |          |          |          |          |    |    |
|             | 77   |          |          |  |          |  |          |          |          |          |    |    |
|             | 78   |          | Г        |  |          |  |          |          |          | _        |    |    |
|             | 79   |          |          | _  | _        |  |          | Т        |          |          |    |    |
|             | 80   |          |          | _  | _        |  |          | Н        |          | _        |    |    |
|             | 81   |          | _        |  |          | $\overline{}$                                    |          | $\vdash$ |          | _        |    |    |
|             | 82   | -        | _        | $\vdash$   | _        | -  | -        |          | $\vdash$ | _        |    |    |
|             | 82<br>83   | _        | -        | -  |          |  | _        | $\vdash$ | H        | Н        |    |    |
| _           | 03   | _        | $\vdash$ | -  |          | _  | _        | ┝╾       | H        | Н        |    |    |
|             | 04   |          | -        |  |          | _  | <u> </u> | ⊢        | H        | _        |    |    |
|             | 80   |          | _        |  |          | _  | _        | -        | _        | Н        |    |    |
|             | 84<br>85<br>86<br>87   |          | _        |  | _        | _  | _        | _        | <u> </u> | _        |    |    |
|             | 8/   |          | _        |  | _        |  | _        | _        | _        | _        |    |    |
|             | 88<br>89   |          |          |  |          |  |          | ļ        |          |          |    |    |
|             | 89   |          |          |  |          |  | L        | L        |          |          |    |    |
|             | 90   |          |          |  |          |  |          |          |          |          |    |    |
|             | 91   |          |          |  |          |  |          |          |          |          |    |    |
|             | 92   |          |          |  |          |  |          |          |          |          |    |    |
|             | 93   |          |          |  |          |  |          |          |          |          |    |    |
|             | 94   |          |          |  |          |  |          |          |          |          |    |    |
|             | 94<br>95   |          |          |  |          | П  |          | Г        | П        | П        |    |    |
|             | 96   |          | Г        |  |          | П  | _        | Т        |          | Н        |    |    |
|             | 97   |          | Т        | _  | _        | $\vdash$   | $\vdash$ | 7        | $\vdash$ | Н        |    |    |
|             | 98   | _        | _        |  | $\vdash$ | $\vdash$   |          | $\vdash$ |          | Н        |    |    |
|             | 99   |          | $\vdash$ |  |          | _  | _        | $\vdash$ |          | $\vdash$ |    |    |
|             | 100  | -        | $\vdash$ |  | -        | $\vdash$   | _        | $\vdash$ |          | Н        |    |    |

| CI             | aim  | Date         |          |                                     |          |                           |          |   |          |          |
|----------------|--|--------------|----------|-------------------------------------|----------|---------------------------|----------|---|----------|----------|
| CI leni        | Original   |              |          |                                     |          |                           |          |   |          |          |
|                | 101  |              |          |                                     |          |                           |          |   |          |          |
|                | 102  |              |          |                                     |          |                           |          |   |          |          |
|                | 103  |              |          |                                     |          |                           |          |   |          |          |
|                | 102<br>103<br>104<br>105   |              |          |                                     |          |                           |          |   |          |          |
|                | 105  |              |          |                                     |          |                           |          |   |          |          |
|                | 106  |              |          |                                     |          |                           |          |   |          |          |
|                | 106<br>107   |              |          |                                     |          |                           |          |   |          |          |
|                | 108  |              |          |                                     |          |                           | _        |   |          |          |
| <u> </u>       | 109  |              |          |                                     | _        |                           | _        |   |          | L        |
|                | 110  |              |          |                                     |          |                           | L        |   |          | _        |
|                | 108<br>109<br>111<br>112<br>113<br>114<br>115<br>116<br>117<br>120<br>121<br>122<br>123<br>124<br>125<br>126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>137<br>138<br>139 |              |          |                                     | _        |                           | _        | _   | _        | _        |
|                | 112  |              | _        | <u> </u>                            | <u>L</u> | <u> </u>                  | <u>_</u> | $ldsymbol{ld}}}}}}}}}$ | _        | L        |
|                | 113  | $oxed{oxed}$ | <u> </u> | L_                                  | _        | <u> </u>                  | <u> </u> |   |          | _        |
| <u></u>        | 114  | <u> </u>     | _        | $ldsymbol{ldsymbol{ldsymbol{eta}}}$ |          | $ldsymbol{ldsymbol{eta}}$ | <u> </u> | L.  | <u> </u> | <u> </u> |
| <u> </u>       | 115  |              |          |                                     | _        | _                         | L        |   | L.       | <u> </u> |
| <u> </u>       | 116  |              | _        |                                     | <u> </u> | L                         | L        | _   | _        | _        |
| <u> </u>       | 117  |              |          | Ш                                   | _        |                           | <u> </u> | _   | _        | <u> </u> |
| $\vdash$       | 118  |              |          |                                     | L        | L                         | _        |   |          | <u> </u> |
| <u> </u>       | 119  |              |          | _                                   | _        | <u> </u>                  |          | _   | _        | <u> </u> |
|                | 120  |              |          |                                     | _        | ļ                         | _        |   | _        | L        |
| <u> </u>       | 121  | _            | _        |                                     | _        |                           |          | _   |          | ļ        |
| <u> </u>       | 122  | _            |          |                                     | <u> </u> |                           | <u> </u> | _   | _        | <u> </u> |
| <u> </u>       | 123  |              |          |                                     | _        |                           | _        | _   | _        | <u> </u> |
| ⊢              | 124  |              |          |                                     | _        |                           | <u> </u> | _   | _        | ļ        |
| <u> </u>       | 125  | _            |          | $\vdash$                            | _        | _                         |          | _   | _        | <u> </u> |
| <u> </u>       | 126  |              |          |                                     |          | _                         | _        | _   | _        | <u> </u> |
| _              | 127  |              |          |                                     |          |                           |          |   |          | _        |
| $\vdash$       | 128  | _            | _        | -                                   | _        | _                         | _        | _   |          | _        |
| <u> </u>       | 129  |              |          |                                     |          |                           | _        |   |          |          |
|                | 130  | Н            |          |                                     |          | -                         | _        |   | _        | <u> </u> |
| $\vdash$       | 131  | -            |          | $\vdash$                            |          | -                         | _        | _   |          | _        |
|                | 132  | _            | _        |                                     | _        |                           | _        |   |          |          |
|                | 133  |              |          |                                     | _        |                           |          |   |          |          |
| $\vdash$       | 134  | Н            |          | _                                   |          |                           |          | _   |          | _        |
|                | 130  | Н            | _        |                                     |          |                           |          |   | _        | _        |
| $\vdash$       | 130  | _            | _        |                                     |          |                           |          |   | _        | _        |
| $\vdash$       | 137  | -            | _        | -                                   | _        |                           | _        |   | _        |          |
| $\vdash$       | 130  |              |          | $\vdash$                            | _        |                           | _        |   | _        |          |
| $\vdash$       | 140  |              | -        | _                                   | _        | _                         | _        |   | _        | -        |
| $\vdash\vdash$ | 141  | -            |          | $\vdash$                            | _        | $\vdash$                  |          |   |          | -        |
| $\vdash$       |  |              |          | $\vdash$                            | -        | $\vdash$                  | -        | $\vdash$  | -        | -        |
| $\vdash$       | 142<br>143   | H            |          | $\vdash$                            | $\vdash$ | $\vdash$                  | $\vdash$ | $\vdash$  | $\vdash$ | $\vdash$ |
| $\vdash$       | 144  | H            | H        | -                                   | -        |                           | -        | $\vdash$  | H        |          |
|                | 145  |              | H        | $\vdash$                            | $\vdash$ | $\vdash$                  | $\vdash$ | -   | $\vdash$ |          |
| $\vdash$       | 146  | Н            | <b>—</b> | $\vdash$                            | $\vdash$ | $\vdash$                  | $\vdash$ | $\vdash$  | -        | $\vdash$ |
| $\vdash$       | 147  | Н            | -        | H                                   |          | <del> </del>              | $\vdash$ | $\vdash$  | Н        | -        |
| $\vdash\vdash$ | 148  | H            | -        |                                     | $\vdash$ | H                         | -        | ┝   | Н        |          |
| $\vdash$       | 149  | H            |          |                                     | -        | $\vdash$                  |          | -   | $\vdash$ |          |
|                | 150  |              | -        | H                                   | $\vdash$ | -                         | $\vdash$ | $\vdash$  | -        | -        |